DOCUMENT RESUME

ED 374 768 IR 016 791

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TITLE	Distance Education: Bridging an Instructional Gap.
INSTITUTION	National Association of Secondary School Principals, Reston, Va.
REPORT NO	ISSN-0547-4205
PUB DATE	May 94
NOTE	5p.
AVAILABLE FROM	National Association of Secondary School Principals, 1904 Association Drive, Reston, VA 22091-1537 (Subscription included in Association dues; individual copies, $2; 2-10 copies, $1.75 each; 11-99 copies, $1.25 each; 100 or more, $1.15 each).
PUB TYPE	Collected Works - Serials (022)
JOURNAL CIT	NASSP Curriculum Report; v23 n5 May 1994
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Access to Education; *Audiovisual Aids; Communications Satellites; *Computer Assisted Instruction; *Distance Education; *Educational Technology; Educational Television; Elementary Secondary Education; Higher Education; *Interactive Television; Nontraditional Education; Program Development; Satellites (Aerospace); Technological Advancement; *Telecommunications
IDENTIFIERS	Compressed Video; Louisiana; North Slope Borough School District AK; *Star Schools; Video Technology

ABSTRACT

Distance education has become a major teaching and learning tool. Distance education typically uses technology to reach learners in the following ways: (1) audio communication through one- or two-way radio or telephone; (2) audiographic links such as computer-to-telephone setups; (3) freeze-frame transmission of visual images; (4) one-way audio-video such as educational television; and (5) interactive, two-way full-motion compressed video. A popular satellite-delivered program called Star Schools is a good example of effective distance education. Many factors influence the acceptance of distance education, but it appears to be more readily accepted when it is the only alternative to a regular classroom. The Telelearning Project Outreach at the Louisiana School for Math, Science, and the Arts and the distance-learning programs of the North Slope Borough School District (Alaska) illustrate the advantages and drawbacks of distance education. The America Tomorrow Leadership Information Service (ATLIS) is being implemented to help educators learn about distance education and educational technology. (Contains 11 references.) (SLD)

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CURRICULUM REPORT

Vol. 23 No. 5 May 1994 (ISSN 0547-4205)

Distance Education: Bridging an Instructional Gap

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The information highway has opened a new world to students through distance education. This new teaching/learning tool brings both learning and students together, even when they are far apart.

The impact of computers on learning has been spectacular. Thanks to the information highway, with its bulletin boards, Internet, "talking books," and interactive multimedia software packages, computers have opened an exciting new world to students.

Distance education is a major teaching/learning tool today. Used since 1985 and labeled as telelearning, distance learning, computer-telephone education, or computer-facilitated teaching/learning, distance learning connects students and teachers across the country and around the world.

"Distance learning—in all its current forms—from classroom to boardroom to city and country-wide forums is an amazing means of sharing information and expertise," notes Secretary of Education Richard Riley. Distance education typically uses technology to reach learners in five ways:

- Audio communication via one or two-way radio or telephone
- Audiographic includes such links as computer-telephone teaching/learning
- Freeze frame transmission of visual images
- One-way audio-video format such as educational television programming
- Interactive, two-way, full motion compressed video (television at both ends).

Although the method may change, the idea of distance education remains the same: learners are located at some distance from the teaching source. The utilization of computers allows for courseware development, electronic data storage and transmission, and greater interactivity between teachers and students (Kaye, 1988).

The extent of the revolution may be seen everywhere. The U.S. Department of Education launched Telstar 401, an education satellite, in December 1993 to provide televised courses to a wide range of students throughout the United States.

A popular satellite-delivered program called "Star Schools," which is funded by the U.S. Department of Education, has served more than 5,000 schools, 500,000 students, and 50,000 teachers in 48 states since it began in 1988.

Programs offered through the Star Schools include instructional modules that can be integrated into the classroom curricula, video field trips, and enrichment activities, as well as formally structured semester-long and year-long courses. Although the program was originally available to small rural schools, it is now available to schools in large urban areas as well.

Another example of this revolutionary technology is the special statewide project funded through the Iowa Distance Education Alliance. When operational, this system will use a two-way, full-motion, interactive fiber optic telecommunications network system to link all of Iowa's 99 counties, bringing together the state's public colleges, universities, and secondary schools.

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What Is Different About Distance Education?

As with almost any method of instruction, there are pluses and minuses to distance education.

On the down side, because learners are not present at the teaching site, students and teacher do not share the traditional personal relationship present in a standard classroom. The instructor has little or no control over student discipline in this situation. Also, the equipment is not perfect and down-time is an irritating aspect of this learning strategy.

Many factors shape the attitudes of those involved with distance learning, ranging from the dependability of the machinery to the distance the students are from the teaching unit.

On the positive side, technology may provide an educational message of its own. In addition to learning the subject matter of the course, students also learn about the technology involved in distance learning.

Although a teacher is not present to discourage disruption, students may pool resources and "rehearse" responses before answering instructor questions. More group learning takes place in distance education situations where students meet collectively (Maxcy, 1989). Lessons may be more organized and emphasis placed on subject matter content over extraneous variables such as small talk or the personal appearance of the teacher or students.

Practices and Attitudes

Many factors shape the attitudes of those involved with distance learning, ranging from the dependability of the machinery to the distance the students are from the teaching unit. The greater the distance students are from the teacher, the more accepting they seem to be. Distance education is usually valued where it is the only alternative to a regular classroom (Kaye, 1988).

Principals' Attitudes. Principals tend to view distance education from a staffing and financial perspective rather than from an instructional point of view. They are reluctant to embrace distance education if it means giving up a guidance counselor or librarian to operate the machinery and/or oversee the class. Maxcy (1989) suggests that few administrators see distance education as a good teaching/learning tool in its own right, and few distance education programs work for long without administrative support.

Teachers' Attitudes. Instructors who have negative attitudes toward distance education typically have had problems with machinery or are not comfortable teaching to an empty classroom. The other instructors seem to "take to it," tolerating technical glitches and able to experience a sense of fulfillment with alternative instructional formats. They thrive on the greater instructional preparation required, the dramatic "slide shows," and the student manipulation of the electronic chalkboard (Maxcy and Maxcy, 1986, 1987).

Students' Attitudes. Students are rarely neutral about distance education (Maxcy, 1989). If they can use technology in a class and "have it count," they deem it valuable.

Distance Learning in Two States

Two examples, one from Louisiana and the other from Alaska, illustrate how educational leaders have used distance education to meet unique needs.

Louisiana. In the small town of Nachitoches at the apex of Cajun swamp country, the Telelearning Project Outreach at the Louisiana School for Math, Science, and the Arts transmits two-way audiographic "telelearning" instruction to sites throughout Louisiana.

In spring 1994, 109 schools in 38 parishes enrolled 1,240 students in 225 sections of the following courses (Loftin, 1994):

- Survey of the Arts
- French I and II
- Calculus
- Computer Science.
- Spanish I and II
- Physics
- Advanced Math

Computer/telephone connections allow "real time" interactive instruction during which time the instructor can ask questions and a student at any site may reply by pressing on a microphone keypad. The instructor or student may write on a tablet and these writings will appear instantly on the computer screen at each distant site. If anyone types into the computer at any site, these screens also appear. The instructor can call up previously prepared computer screens or software packages.

This method of distance education has rich advantages and is relatively inexpensive when compared to other interactive distance technologies. It enables students to meet programmatic requirements for graduation and college entrance while saving local schools from hiring additional teachers.

These telelearning classes average 22 students with many school sites having as few as two or three students in a course. Because the program is state subsidized, expenses incurred by the school sites are limited to the supervision of the classes. Students favor these programs because they are a means to meet credentialing requirements; teachers like the technology and control; and administrators favor it where the system is cost effective.

Alaska. Along the northern coast villages of Alaska, the Inupiaq Indians have lived in isolated existence for thousands of years. Eight small villages comprise the North Slope Borough School District (NSBSD). The school boundaries enclose 88,000 square miles of frozen tundra.

In 1993–94, the total student population was 2,000 enrolled in preschool through grade 12. Using oil revenues as a financial base, the average per pupil cost is just under $20,000 (excluding various federal program costs).

In 1989, when Patsy Aamodt became the superintendent of the NSBSD, it was apparent some type of distance education needed to be implemented if the Inupiaq culture was to remain viable in today's world. Three different distance learning methods were used prior to 1992.

The first distance learning utilized video discs—"canned curriculums" on a laser disc. The second mode was EDUNET, a system in which computers are linked via telephone lines with no allowance for visual or oral interaction between students and teachers. The third method was LiveNet, an educational television network operated by the University of Alaska, where students could see instructors on television screens but verbal communication was limited to audio conferencing.

In the fall of 1992, the first full-motion, two-way interactive video course in math was offered by the North Slope district. A master teacher at the uplink instructional center was assisted at each distant site by a teaching partner (a math generalist who could help the students at his or her site as needed).

This method has proved to be more successful than earlier modes of distance education. Students' national test scores have begun to rise and students and relatives can watch these televised at home on a community television channel. Grandparents are able to watch their grandchildren each day, even though they are 200 miles away.

In the fall of 1992, the first full-motion, two-way interactive video course in math was offered...This method has proved to be more successful than earlier modes of distance education.

Thanks to two-way interactive video distance education, the Inupiaq have developed a new sense of community and an optimism about their future.

Conclusion

Distance education creates a unique opportunity for schools to extend their academic offerings to new audiences and, at the same time, address the issue of equal access. It offers the poten-

America Tomorrow Network: Distance Learning for Administrators

An increasing number of school administrators use electronic networks to access important information and communicate with colleagues.

The momentum surrounding networking has increased significantly during the past two years due to decreasing costs, improved ease of use, and significantly more publicity regarding interactive communication and the "national information highway."

NASSP is taking part in developing a shared national network to help colleagues take advantage of the new technology that is helping their students learn. This network, America Tomorrow Leadership Information Service (ATLIS) facilitates education, training, and workforce development for educators.

Organizations contribute to "Information Hubs" built around common interest topics. NASSP provides information to the K–12 and Workforce Investment Hubs.

The Advantages of ATLIS

ATLIS offers a number of advantages:

- News about the national education goals is provided daily, along with news relevant to each of the Hub areas.
- NASSP's section includes national and regional calendar information, resources available from NASSP, information about special programs such as the Administrator Exchange Program and NASSP-sponsored scholarships.
- A Center for Career Opportunities provides information about education administration job vacancies across the country.
- The Issues and Answers database provides information about topics ranging from violence in schools to school-to-work transition.

The most valuable aspect of ATLIS is the ability for members to electronically share the expertise that resides within the NASSP membership. The bulletin board lets members share concerns and solutions with those looking for help.

For more information about the ATLIS program, contact America Tomorrow at (800) 456-8881.

tial for instructional innovation through new technologies, and as the technology improves, distance education will expand.

This form of instruction can work, if we evaluate our students needs, our schools' resources, and the technology available. Distance education brings people together.

References

Fossey, R. "Patsy Aamodt and the North Slope Borough School District." Unpublished case study. Cambridge, Mass.: Harvard University, 1994.

Kaye, A. "Distance Education: State of the Art." *Prospects* 1(1988): 43–54.

Lloyd, L.A. "Telecommunications and Distance Learning: Trends in the U.S." Paper presented at the American Educational Research Association. New Orleans, April 5–9, 1988.

Loftin, R. *Telelearning Project Outreach. Conversation with D.O. Maxcy*, March 18, 1994.

Maxcy, S.J. "Computer-Directed Learning and the Problem of Community." *International Journal of Instructional Media* 2(1989): 127–35.

Maxcy, D.O., and Maxcy, S.J. "Computer/Telephone Pairing for Long Distance Learning." *Journal of Educational Technology Systems* 2(1986-87): 201–11.

Maxcy, S; Michael, N.; and Maxcy, D.O. "Distance as a Factor in Computer/Telephone Instruction in Higher Education." *Louisiana Education Research Journal* 1(1990/91): 36–51.

North Slope Borough School District. "Wings of Tomorrow." Barrow, Alaska: North Slope Borough School District, 1993.

Olcott, D. "Bridging the Gap: Distance Learning and Academic Policy." Paper presented to at the NUCEA National Conference, Miami, Fla., April 19–23, 1991.

Stacey, E. "Technology Overcomes Australian Distances." *THE Journal*, 6(1994): 56–59.

U. S. Department of Educational Research and Improvement. "Star Schools Program." PIP 93-1119. Washington, D.C.: U.S. Department of Education, 1993.

KUDOS

This *Curriculum Report* was written by Doreen Maxcy, Richard Fossey, and Spencer J. Maxcy at Louisiana State University-Baton Rouge.

Curriculum Report is a bi-monthly publication of the National Association of Secondary School Principals, 1904 Association Dr., Reston, Va. 22091-1537. Annual subscription rate of $4 included in the dues of NASSP. Individual subscriptions not available. Individual copies, $2; 2–10 copies, $1.75 each; 11–99 copies, $1.25 each; 100 or more, $1.15 each. *Payment must accompany orders of $15 or less.*

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